

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

To:

see form PCT/ISA/220

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/GB2005/000012

International filing date (day/month/year)
06.01.2005

Priority date (day/month/year)
13.01.2004

International Patent Classification (IPC) or both national classification and IPC
G09G3/32

Applicant
UNISPLAY SA

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/GB2005/000012

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43bis.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
- ☒ claims Nos. 11

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the whole application or for said claims Nos. 11
- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
 - the written form ☐ has not been furnished
 - ☐ does not comply with the standard
 - the computer readable form ☐ has not been furnished
 - ☐ does not comply with the standard
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.
- ☐ See separate sheet for further details

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
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Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:
- ☐ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☒ not paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☐ all parts.
 - ☒ the parts relating to claims Nos. 1-10,12-14

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2,7,9,10,12,13
	No: Claims	1,3-6,8
Inventive step (IS)	Yes: Claims	2,7
	No: Claims	1,3-6,8-10,12-14
Industrial applicability (IA)	Yes: Claims	1-10,12-14
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

D1: WO 98/52182 A (UNISPLAY S.A; SALAM, HASSAN, PADDY, ABDEL) 19 November 1998 (1998-11-19)

D2: US 6 414 661 B1 (SHEN ZILAN ET AL) 2 July 2002 (2002-07-02)

D3 : GB 2 378 344 A (* PRINTABLE FIELD EMITTERS LIMITED) 5 February 2003 (2003-02-05)

I. Novelty and inventive step (Article 33 PCT).

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1, is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parentheses applying to this document):

a monitoring device (21 and connecting beams) for a device (101) of the type having a main body to which a display (110) is attached, said monitoring device being coupled to a portion of said main body at least temporarily and including a light sensor (21) that is spaced away from said display during monitoring of the display by the monitoring device (see page 19).

The monitoring device disclosed by D1 is described for a large size display panel, but, mutatis mutandis, is certainly suitable for monitoring the display device of a rechargeable personal portable device. Therefore, the subject-matter of claim 1 is not new.

3. Dependent claims 3-6, 8, 10 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

- 3.1 Claim 3 introduces the feature that light emitted by a pixel is modulated and that the modulated light is detected with the aid of a circuit selective to the modulation. The fact that the light emitted by a pixel is modulated is common to all displays, otherwise the displays would only display a static picture, always the same. Further, D1 discloses that the pixels have to be driven to a determined light emission value for calibration, and that the sensor is set up to detect this determined value of light emission (see column 9, lines 37-48). Therefore, the subject-matter of claim 3 is not new.
- 3.2 Claims 4 and 8 introduce the additional feature that the sensor is a camera. D1 discloses that the light sensor (21) is a camera, therefore the subject-matter of claims 4 and 8 is not new.
- 3.3. Document D1 also shows that the sensor is connected by a connector (102) and an arm (103, 104) joining the connector with the sensor. Therefore, the subject-matter of claim 5 is not new.
- 3.4 Figure 6 of D1 shows that the arm 103 can rotate around the pivot shown connecting it to connector 102. Therefore, the subject-matter of claim 6 is not new.
- 3.5 The additional feature introduced by claim 9 is that the device including the display is a laptop computer. This feature is just a possible choice of the device to be tested, and it does not involve an inventive step.
- 3.6 The additional feature introduced by claim 10 is that the resolution of the camera used as sensor is lower than the resolution of the display. It is however well known in the art to use sensors with different resolutions in order to calibrate an OLED display. See for example D2 in which the camera is stepped back in order to reduce the equivalent resolution of the sensor to embrace a whole set of light emitters, or D3, in which (see figure 6a) a few sensors cover the whole display surface for calibration. Therefore, the subject-matter of claim 10 does not involve an inventive step.
- 3.7 The additional features introduced by claim 12 describe a system in which the display is connected with a hinge to the main body. Obviously the hinge allows the display to be deployed on one side of the main body, i.e. the side on which the hinge is located. The claim then states that the sensor will have to be "placed near

an opposite end of the main body", that is opposite the display. But this is what is always done when calibrating a display: the sensor is placed facing the display to be calibrated, see for example figures 1 and 6 of D1. The subject-matter of claim 12 does not involve an inventive step.

4. Claim 13, even if it is formulated as an independent claim, comprises all the features of claim 1, with the additional feature of the presence of a light reflector that is spaced away from said display during monitoring of the display by the monitoring device, the reflector directing light from said display towards a sensor".

The problem to be solved by the invention as described in claim 13 may therefore be regarded as directing the light emitted by a display towards a sensor, for the purpose of calibration. It is, however, well known to redirect light emitted by a source towards a sensor by means of reflectors (e.g. mirrors). Therefore, the subject-matter of claim 13 does not involve an inventive step in the sense of Article 33(3) PCT.

5. The subject-matter of claim 14 differs from the subject-matter of claim 13 in that the redirection of the light emitted by the display towards the sensor is realized using a light guide having a first end which is of about the same area as the display device, and the second end that is of smaller area, and placed near the sensor. However, light guides arranged in bundles with different areas at the two ends are well known in the art (e.g. optical fibre bundles) and their use to redirect light is also well known. Therefore, the subject-matter of claim 14 does not involve an inventive step in the sense of Article 33(3) PCT.

II. Unity of invention (Rule 13 Pct).

6. The special technical feature introduced by claims 2 and 7 is that the monitoring device includes means (respectively is part of a cradle) for charging batteries of the portable device. This technical feature allows to solve the problem of performing the calibration of the display when the display is not in use, without manual intervention of the user.

The special technical feature introduced by claim 11 is that the sensor is a camera having a lens with an optical axis and having a sensor array the plane of which is

oblique to the optical axis. The technical problem solved by the invention as claimed in claim 11 can be regarded as the calibration of a monitor using a sensor with an optical axis, which is not orthogonal to the plane of the display device used.

The groups of claims are not linked by common or corresponding special technical features and define two different inventions not linked by a single general inventive concept. The application, hence does not meet the requirements of unity of invention as defined in Rules 13.1 and 13.2 PCT.

III. Additional comments.

7. The combination of the features of dependent claims 2 and 7 are neither known from, nor rendered obvious by, the available prior art. The reasons follow.

The devices claimed in claim 2 and 7 combine the function of calibration of the display device with the function of charging the batteries of the device to which the display is attached. This combination of features is not disclosed nor suggested by the prior art disclosed in the International Search Report and it can usefully be used to solve the problem of performing the calibration of the display when the display is not in use, without manual intervention of the user.